REMARKS/ARGUMENTS

This response is filed in reply to the Office Action of December 27, 2002, and accompanies a Request for Continued Examination for the present application. Also accompanying this response is a Petition for a three-month retroactive extension of time extending the period for response to June 27, 2003.

In paragraph 3 of the Office Action, the drawings have been objected to for various informalities. The Examiner has indicated that a proposed drawing correction or corrected drawings are required to avoid abandonment of the application. Accordingly, the Applicants have provided corrected drawings with this response. As such, withdrawal of the objection to the drawings is respectfully requested.

In paragraph 4, claims 1-17 have been rejected under 35 U.S.C. § 102(b) as being anticipated by "Modeling Supply-Chain Networks by a Multi-Agent System", F. Lin *et al.*, Proceedings Systems Sciences (Jan. 1998) (hereafter "Lin"). While the Applicants respectfully disagree that Lin discloses or suggests each aspect of the present invention as claimed, the Applicants have attempted to clarify the present invention by amending independent claims 1, 8, and 13. More particularly, the Applicants have clarified that one of a plurality of different manufacturing techniques can be simulated in accordance with the present invention. The manufacturing techniques that can be simulated include Pull, Push, and Takt manufacturing techniques. Support for these amendments can be found on pages 12-16 in reference to FIGS. 5, 6A-6E, and 7 of the Applicants' specification.

Prior to addressing the rejections on the art, a brief review of the Applicants' invention is appropriate. The Applicants have invented a method and system for distributed agent-based non-expert simulation of manufacturing process behavior. In accordance with the Applicants' invention, manufacturing process behavior, such as that exhibited by Push, Pull, and Takt systems, can be simulated through the use of distributed agents in single-processor computers.

According to the present invention, a manufacturing technique of choice can be object modeled. Each process within a manufacturing technique, for example a Push, Pull, or Takt manufacturing technique, can be identified and subsequently associated

9

with a distributed programmatic agent. Each programmatic agent can be programmed to respond to the occurrence of discrete events corresponding to the selected manufacturing technique.

As each agent can be coupled to adjacent agents corresponding, for example, to upstream and downstream manufacturing processes, during the course of the agent-based simulation, an agent can receive a message from another agent in the simulation. The agent can identify within the received message a discrete event such as a computerized clock tick event, a resources received event, or a request for output production event. In response, the agent can cause an associated process to perform an activity. The agent can message an adjacent agent in response to the identified event.

Turning to the rejection on the art, claims 1-17 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Lin. Lin relates to a multi-agent information system approach to modeling a product order fulfillment process (OFP) in a supply chain network (SCN). Unlike the manufacturing processes described in the Applicants' patent application, an OFP begins with the receipt of an order from a customer and ends with the delivery of the finished good to the customer.

Thus, Lin teaches the modeling of an entire order fulfillment process of which manufacturing enjoys only a discrete role. As Lin eludes to manufacturing on a macro-level, Lin fails to teach or suggest that a manufacturing technique having <u>a plurality of processes</u> can be object modeled or that a <u>distributed agent can be associated with each process of the manufacturing technique</u>. Rather, as noted, <u>Lin equates agents to individual "semi-autonomous business entities" and not to individual processes</u> in a manufacturing technique as explicitly recited in the Applicants' claims. Accordingly, Lin does not associate distributed agents with processes of a manufacturing technique.

Lin's treatment of the manufacturing process as a single non-divisible entity is further evidenced by Lin's lack of discussion regarding specific manufacturing techniques. The Applicants' invention, as claimed, states that a manufacturing technique selected from a plurality of different techniques, such as a Pull, Push, or Takt manufacturing technique, can be selected. Lin, in contrast to the Applicants' invention,

teaches only product order fulfillment throughout an entire supply chain. As such, Lin does not disclose that a manufacturing technique can be selected from a plurality of different techniques. Moreover, Lin does not include any teaching or suggestion that the different manufacturing techniques can include a Pull, a Push, or a Takt manufacturing technique. Lin, as noted, eludes to manufacturing on a macro-level and addresses neither the individual processes comprising a manufacturing technique nor the different varieties of manufacturing techniques that are available.

In light of the preceding remarks, withdrawal of the rejection of claims 1-14 and allowance of all claims is respectfully requested. The Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. The Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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Gregory A. Nelson, Registration No. 30,577
Kevin T. Cuenot, Registration No. 46,283
AKERMAN SENTERFITT
222 Lakeview Avenue, Suite 400
Post Office Box 3188
West Palm Beach, FL 33402-3188
Telephone: (561) 653-5000

11